REMARKS

The Office Action dated June 6, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Following the current amendment, claims 1, 2, 4, 6-14, 16-19, and 21-39 are currently pending, including independent claims 1, 19, and 34-36. In particular, Applicants amended claims 1 and 24. It is respectfully submitted that the claim amendments should be entered because they add no new subject matter to the present application and serve only to more particularly point out and distinctly the subject matter that the Applicants regard as the invention. Applicants urge that all grounds for rejection in the Office Action have been addressed and that the present application is currently in condition for allowance in view of the claim amendments and the following comments. Therefore, reconsideration and allowance of claims 1, 2, 4, 6-14, 16-19, and 21-39 are respectfully requested.

Objection to the Specification

The Office Action objected to the specification as allegedly failing to provide adequate support for the limitations in claim 34. Applicants respectfully traverse this objection. Specifically, Applicants urge that this objection is legally improper because the specification expressly describes software components as recited in claim 34. For example, paragraph [0003] in the background of the present application includes the disclosure that cluster farms rely on load balancing software, and paragraph [0005]

discloses that the load balancing is performed by a combination of hardware and software. Applicants further note that certain disclosed embodiments of the present invention are expressly implemented by "servers," and one of ordinary skill in the field of computers would readily understand and appreciate that a server should and must include computer hardware and software elements encoded on a tangible computer readable storage device. Therefore, the specification would inherently enable a person of ordinary skill in the field of computer networking to understand that software would include "computer readable medium" and "a computer executable components." Under U.S. patent law, claims limitations do not need to have literal support in the specification (MPEP §2163.04) but instead need to enable one of ordinary skill in the relevant technical field to implement the claimed invention without undue experimentation. For at least these reasons, withdrawal of this objection and reconsideration of claim 34 are respectfully requested.

Rejection of the Claims under 35 U.S.C. §103(a)

Claims 1, 2, 4, 6-14, 16-19, and 21-39 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,415,323 (McCanne) in view of U.S. Patent No. 7,333,495 (Sala) and U.S. Patent No. 6,854,013 (Cable). According to the Office Action, McCanne allegedly discloses all recitations of these claims except for the scheduling of a service process and taking an advertising message into account during the scheduling. However, the Office Action took the position that these admitted deficiencies in McCanne are cured, respectively by Sala and Cable. However, as will be

discussed below, each of the pending claims recites subject matter which is neither disclosed nor suggested in the combination of McCanne, Sala, and Cable. Applicants respectfully traverse this rejection and request that this rejection be withdrawn in view of the following comments.

Independent claim 1, from which claims 2, 4, 6-14, 16-18 depend, recites a method that includes providing a service with a service process in a server. A service-specific anycast address is configured to a server interfaces on a communication link via which the server receives messages from a router or other servers. Furthermore, the service process and the service-specific anycast address configured interface are monitored. Then, the service process and the need for an advertisement message are scheduled, wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message. Also, an advertisement message is sent when the service process is able to provide the service via the communication link to all other servers in response to the scheduling.

Independent claim 19, from which claims 21-33 depend, recites an apparatus that includes a service process configured to provide service on a communication link via which the server is adapted to receive messages from a router or other servers. A service-specific anycast address in the apparatus is configured to a server interface on the communication link. A monitor device monitors the service process and the service-specific anycast address configured interface. A service scheduling device schedules the service process and a need for an advertisement message. The service scheduling device

is configured to take into account, when determining the need for an advertisement message, any advertisement messages received to the service-specific anycast address from other servers. A sending device sends an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling of the service scheduling means.

Independent claim 34 relates to a computer program embodied on a computer readable medium. The computer readable medium stores code that includes computer executable instructions that includes providing a service with a service process in a server. A service-specific anycast address is configured to a server interface on a communication link via which the server receives messages from a router or other servers. The service process and the service-specific anycast address configured interface are monitored. The service process and the need for an advertisement message are scheduled. In particular, the scheduling takes advertisement messages received to the service-specific anycast address from other servers into account when determining the need for an advertisement message. Then, an advertisement message is sent when the service process is able to provide the service via the communication link to all other servers in response to the scheduling.

Independent claim 35 is directed to an apparatus that is configured to provide a service with a service process and to configure a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers. Moreover, the server is further configured to monitor the service process and the service-specific anycast address configured interface. The server is

additionally configured to schedule the service process and the need for an advertisement message, wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message. The server then sends an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling.

Independent claim 36, from which claims 37-39 depend, recites an apparatus that includes a service process configured to provide service on a communication link via which the server is adapted to receive messages from a router or other servers. A service-specific anycast address in the apparatus is configured to a server interface on the communication link. A monitoring means for monitors the service process and the service-specific anycast address configured interface. A service scheduling means schedules the service process and a need for an advertisement message. These service scheduling means are configured to take into account, when determining the need for an advertisement message, any advertisement messages received to the service-specific anycast address from other servers. A sending means sends an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling of the service scheduling means.

Applicants submit that each of the above-noted independent claims recites subject matter that is not taught or disclosed by McCanne by itself or in combination with Sala and Cable.

As described in Applicants prior submitted Responses of November 2, 2007 and April 22, 2008, McCanne relates to a proximity-oriented redirection system for service-to-client attachment in a virtual overlay distribution network. The solution includes a "redirector" coupled to at least one of the addressable routers and includes: logic for accepting a service request from a client; logic for determining a selected server for handling the service request, the selected server being one of a plurality of servers that can handle the service request; and logic for generating a redirection message directed to the client for redirecting the service request to the selected server.

In particular, McCanne concentrates on the functions of a redirector. The redirector is the element that distributes service requests between different service nodes (that actually provide the service). Thus, the solution disclosed by McCanne relates to load balancing with the redirector. See, for example, McCanne at col. 13, lines 14-17 and 21-23, as well as the issued claims.

As admitted in the Office Action, McCanne does not anticipate the embodiments of the invention recited in the pending claims. As described above, claim 1 recites that each server schedules the sending of an advertisement message and takes into account in the scheduling advertisement messages received from other servers via the communication link. In contrast, McCanne simply does not teach or disclose any special functionality in the servers providing the service. In other words, McCanne does not teach that the load balancing is actually implemented in the servers because the router acts in response to the advertisement messages from the other servers.

In addition, claim 1 recites also that the service scheduling are configured to take into account, in determining the need for an advertisement message, advertisement messages received to the service-specific anycast address from other servers. Thus, the load balancing functionality is achieved by the functionality of the server farm servers rather than in the router functionality. This recited aspect of the embodiment of claim 1 is also not disclosed or suggested in McCanne.

Furthermore, in the recited embodiment of claim 1, the load balancing is actually performed by the servers themselves. In particular, the recited embodiment of claim 1 achieves the load balancing functionality through the operation of the server farm servers. McCanne does not provide any teaching toward such a solution and, instead, discloses a solution based on a router (*i.e.*, redirector) functionality, as described above. Accordingly, the recited solution of claim 1 is significantly different from the teachings of McCanne.

Instead, McCanne discloses a virtual overlay network topology. In contrast, certain recited embodiments of the present invention relate to servers on the same communication link. Furthermore, McCanne emphasizes that service nodes are in the virtual overlay network instead of a physical internetwork [col. 4, lines 42-45]. This clearly teaches away from the "same communication link" architecture recited in claim 1.

In summary, Applicants note that McCanne comprises common advertisement functionalities. As admitted in the Office Action, McCanne does not teach or suggest that the need for an advertisement message would be determined on the basis of received advertisements from other servers advertising the same services (and addresses).

While the Office Action admits that McCanne does not disclose the scheduling the Office Action alleged that Sala [at col. 2, line 55 - col. 3, line 1 and at col. 4 lines 22-24], discloses scheduling multiple services. However, as described below, Applicants urge that Sala does not cure at least the above-noted deficiencies in McCanne.

Sala discloses a method for scheduling transmissions of upstream communications. A local node has a local scheduler and the node further provides services which need transmission bandwidth. The local scheduler manages bandwidth allocation among its local services such that all requesting services receive appropriate bandwidth eventually.

Thus, as admitted in the Office Action, neither McCanne nor Sala provides any relevant disclosure regarding a solution that would suggest that the need for an advertisement message would be determined on the basis of received advertisements from other servers advertising the same services.

To address this deficiency in McCanne and Sala, the Office Action cited to Cable. Cable discloses a method for network service optimization, or more specifically, server load distribution in an IP network. The method of Cable gives a fair share of server bandwidth to a subscriber edge device so that a server controller directs a resource request from a client to a server. The Office Action specifically references a section of Cable describing that available bandwidth is advertised by each server to the associated server controller, and this server controller then gives bandwidth shares to each subscriber edge device.

Applicants therefore urge that Cable does cure the admitted deficiencies in McCanne and Sala. For example, claim 1 recites the scheduling as follows:

> scheduling the service process and a need for an advertisement message, wherein the scheduling is configured to take advertisement messages received o the service-specific anycast address from other services into account in determining the need for an advertisement message.

Applicants respectfully urge that Cable does not disclose or suggest this recited scheduling that is based on received advertisements, as described in greater detail below.

As described above, Cable at col. 4, lines 31-43 specifically discloses that the servers advertise the available bandwidth and/or capacity to the associated server controller which takes and holds this information and further offers fair share of the servers' aggregate egress bandwidth to each subscriber edge device.

In contrast, claim 1 (as reproduced above) specifically recites scheduling the process and the need of advertisement, and this limitation is not disclosed or suggested in any of the cited references. As described above, Cable relates instead to allocating fair share of bandwidth is allocated in Cable. Specifically, Cable discloses in col. 4 lines 31-43 that the advertisement is sent for the unused capacity (*i.e.*, a message indicates a need for service), whereas claim 1 recited that the advertisement message is sent only if a the service is going to be provided on that resource (*i.e.*, a message indicates a service is being provided).

In this way, Applicants urge that claim 1 is allowable over McCanne, Sala, and Cable for at least the reason that the limitation relates to "a need of advertisement" is not disclosed or suggest in any of the cited documents. As recited in claim 1, the

advertisement is sent only when the service can be deployed on that resource, whereas McCanne and Sala are silent regarding advertising messages and Cable discloses a general advertising broadcast that occurs whether or not a service process is being provide. on that specific resource.

Accordingly, the combination of McCanne, Sala, and Cable neither discloses nor suggests each and every of the recited features of claim 1. For at least this reason, Applicants urge that the rejection of claim 1 in view of the combination of McCanne, Sala, and Cable is clearly improper since the cited references by themselves of in combination fail to teach or suggest each and every limitation recited in claim 1. Withdrawal of this rejection of claim 1 and reconsideration of this claim in view of these arguments are respectfully requested. Likewise, claims 2, 4, 6-14, and 16-18 depend from claim 1 and are also allowable over the combination of McCanne, Sala, and Cable.

Likewise, each of independent claims 19 and 34-36, although different in scope from claim 1 and rejected on different grounds, likewise contains similar recitations related to the scheduling of a service and a need for an advertising. Withdrawal of this rejection of claims 19 and 34-36 and reconsideration of these claims are therefore also respectfully requested. Likewise, claims 20-33 that depend from claim 19 and claims 37-39 that depend from claim 36 are also be allowable over McCanne, Sala, and Cable on a similar basis, as well as for the separate limitations recited in these claims.

For example, Applicants further urge that claim 2 is separately allowable over McCanne, Sala, and Cable because none of these references discloses or suggests the limitations recited in claim 2. For example, contrary to the position taken in the Office

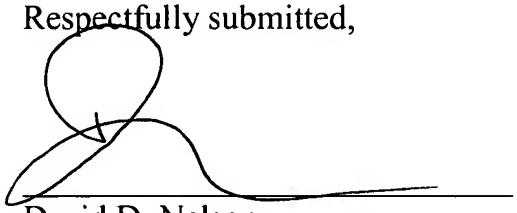
Action, McCanne does not disclose or suggest that an advertisement message is activated by a solicitation from the router. Instead, McCanne at col. 7, lines 34-40 merely describes that the servers utilize the advertisement procedure in order to show the availability of the resources in the network. Withdrawal of the rejection of claim 2 and reconsideration of this claim in view of this separate basis are respectfully requested. Likewise, claim 23 also contains similar recitations related to a solicitation from the router and should similarly be allowed over McCanne, Sala, and Cable. Furthermore, claim 4 that depends from claim 2 and claim 24 that depends from claim 23 should also be allowable over the combination of McCanne, Sala, and Cable.

As discussed above, each of the pending claims 1-2, 4, 6-14, 16-19, and 21-39 are currently pending for consideration, including independent claims 1, 19, and 34-36, recites subject matter which is neither disclosed nor suggested in the cited references. Applicants submit that the recited subject matter is more that sufficient to render the invention non-obvious to a person of ordinary skill in the art. It is respectfully requested that independent claims 1, 19, and 34-36 and the related dependent claims be allowed in view of the above arguments, comments, and remarks and that the present application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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